SHAKHOV, A.A.; KHAZANOV, V.S.; STANKO, S.A.

The true spectral properties of plants. Bot. zhur. 46 no. 2:222-233 F '61. (MIRA 14:2)

1. Institut fiziologii rasteniy im. K.A. Timiryazeva Akademii nauk SSSR i Vsesoyuznyy nauchno-issledovatel'skiy svetotekhnicheskiy institut, Moskva.
(Leaves—Optical properties)

SHAKHOV, A.A. (Moskva)

Current research on plant physiology in the United States. Usp. sovr.biol. 51 no.3:379-390 My-Je '61. (MIRA 14:6)
(UNITED STATES—PLANT PHYSIOLOGY—RESEARCH)

SHAKHOV, A.A.; GOLUBKOVA, B.M.; KISLYAKOVA, T.Ye.

Submicroscopic structure and function of chloroplasts in potatoes under different environmental conditions. Dokl. AN SSSR 141 no.5: 1246-1249 D '61. (MIRA 14:12)

1. Institut fiziologii rasteniy im. K.A. Timiryazeva AN SSSR. Predstavleno akademikom A.L. Kursanovym.

(Chromatophores)
(Photoperiodism)
(Plants, Effect of temperature on)

SHAKHOV, A.A.; STANKO, S.A.; KHAZANOV, V.S.

Role of the photoadaptation and photoreactivation of plants in space flight. Probl.kosm.biol. 2:340-353 '62. (MIRA 16:4)
(PLANTS, EFFECT OF LIGHT ON)
(LIFE SUPPORT SYSTEMS (SPACE FLIGHT))

SHAKHOV, A.A., prof.

Energy metabolism and relationship between the light and root nutrition of plants. Trudy Lab. evol. i ekol. fiz. no.4:5-38 '62. (MIRA 18:3)

SHAKHOV, A.A.

Effect of cosmic rays on vital activities of plants. Zhur. ob. biol. 23 no.2:81-89 Mr-Ap '62. (MIRA 15:5)

1. Institute of Plant Physiology, Academy of Sciences of the U.S.S.R.
(PLANTS, EFFECT OF RADIATION ON)

SHAKHOV, A.A.; KHAZANOV, V.S.; STANKO, S.A.; OSTAPOVICH, L.F.

Photoadaptation and photoreactivation of plants in the mountains
Bot.zhur. 47 no.1:68-78 Ja '62. (MIRA 15:2)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva AN SSSR Moskva, Vsesoyuznyy nauchno-issledovatel'skiy svetotekhnicheskiy institut, Moskva i Pamirskiy botanicheskiy sad AN Tadzhikskoy SSR, g. Khorog.

(Pamirs--Plants, Effect of light on)

SHAKHOV, A.A.; GOLUBKOVA, B.M.

Effect of ultraviolet irradiation on the structure of chloroplasts. Fiziol. rast. 10 no.3:300-306 My-Je '63. (MIRA 16:6)

1. K.A.Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.

(Plants, Effect of ultraviolet rays on) (Chromatophores)

SHAKHOV, A.A., prof. (Moskva)

Vegetable gardening under artificial illumination. Priroda 52 no.8:122-123 Ag '63. (MIRA 16:9)
(Vegetable gardening) (Plants, Effect of light on)

SHAKHOV, A.A.; NARINYAN, S.G.; GOLUBKOVA, B.M.

Change in the structure of chloroplasts under the influence of the temperature and radiation balance on Mount Agarats. Dokl. AN Arm. SSR 37 no.1:33-38 '63. (MIRA 16:11)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva AN SSSR i Botanicheskiy institut AN Armyanskoy SSR. Predstavelno akademikom AN Armyanskoy SSR V.O.Gulkanyanom.

SHAKHOV, A.A.; STANKO, S.A.; NARINYAN, S.G.

Effect of the solar radiation on Mount Aragats on the spectral properties of plants. Dokl. AN Arm. SSR 36 no.1:45-49 '63. (MIRA 17:1)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR i Botanicheskiy institut AN Armyanskoy SSR. Predstavleno akademikom AN Armyanskoy SSR G.Kh. Bunyatyanom.

SHAKHOV, A. A.

"The photoenergy basis of the adaptation of plants in the extreme North."

report submitted for 10th Intl Botanical Cong, Edinburgh, Scotland, 3-12 Aug 64.

SHAKHOV, A.A.; GOLUBKOVA, B.M.

Structure of chloroplasts in the ontogeny of plants. Bot. zhur. 49 no.4:503-510 Ap'64. (MIRA 17:5)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR, Moskva.

SHAKHOV, A.A.; BIDZELYA, N.I.; STANKO, S.A.; NABIULLIN, F.Kh.

Photoinduced EPR signals in seeds. Biofizika 10 no.4: 710-713 '65. (MIRA 18:8)

1. Institut fiziologii rasteniy im. K.A. Timiryazeva AN SSSR, Moskva; Institut fiziologii rasteniy AN UkrSSR, Kiyev i Vsesoyuznyy nauchno-issledovatel'skiy institut istochnikov tokov, Moskva.

SHAKHOV, A.A.; KHAZANOV, V.S.; STANKO, S.A.

Spectral light absorption capacity of the leaves of tree crowns.
Fiziol.rast. 12 no.1:22-26 Ja-F '65. (MIRA 18:3)

1. Institut fiziologii rasteniy imeni Timiryazeva AN SSSR, Moskva i Vsesoyuznyy nauchno-issledovatel'skiy svetotekhnicheskiy institut, Moskva.

SHAKHOV, A.A.; KAPLINA, G.T.; YUSUPOV, M.

Presowing irradiation of seeds by pulsed concentrated light.
Agrobiologiia no.2:274-280 Mr-Ap '65. (MIRA 18:11)

1. Institut fiziologii rasteniy AN SSSR, Moskva, i Kazakhskiy sel'skokhozyaystvennyy institut, Alma-Ata.

SHAKHOV, A.A.; SHISHCHENKO, S.V.

Effect of short-wave ultraviolet rays on the biosynthesis of pigments in plants. Fiziol. rast. 12 no.3:432-439 My-Je '65. (MIRA 18:10)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR, Moskva.

[illegible]; [illegible], A.V.; [illegible], V.S.; SARKISYAN, S.

[illegible] of ultraviolet radiation on the spectral properties of [illegible]. Izv. AN Arm. SSR. [illegible] nauki 15 no.5:[illegible] '62. (MIRA 16:9)

1. Institut fiziologii rasteniy imeni Timiryazeva AN SSSR, [illegible] institut AN Armyanskoy SSR i Vsesoyuznyy nauchno-issledovatel'skiy [illegible] institut.

L 14296-66 EWT(1)/FS(v)-3 SCTB DD/RD

ACC NR: AT6003882 SOURCE CODE: UR/2865/65/004/000/0474/0486

AUTHOR: Shakhov, A. A.; Shishchenko, S.V.; Stanko, S. A.; Shaydurov, V. S.; Golubkova, B. M. 40 B+1

ORG: none

2,44

TITLE: Ultraviolet irradiation of plants as a problem of space phytophysiology

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 474-486

TOPIC TAGS: plant physiology, UV irradiation, photosynthesis, space biologic experiment, plant growth, radiation plant effect

ABSTRACT: The purpose of this review article, which includes results of many experiments, is to explore some aspects of the influence of ultraviolet radiation on photosynthesis, and to emphasize this area of investigation in space biology. In the first group of experiments described, plants grown under conditions of normal polar illumination were irradiated additionally with ultraviolet and infrared light, in most cases simultaneously. Ultraviolet irradiance ranged from 10—30 μw/cm^2. Electron microscopy of

Card 1/3

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L 14296-66

ACC NR: AT6003882

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chloroplasts separated from these plants showed that shortwave UV-irradiation changes the submicroscopic structure of chloroplasts. But, owing to the photoreactivation capacity of plants, some recovery from injuries occurs. Thus chloroplasts of some plants are fairly resistant to artificial UV-irradiation during the polar day.

A second series of experiments was conducted at an altitude of 3200 m, where the level of natural ultraviolet radiation is higher than at sea level. When radishes were subjected to additional artificial UV-irradiation daily for 10 minutes (irradiance of 1700 erg/cm^2), changes in chloroplast structure and pigment content were observed. Changes in the pigment content, determined by paper chromatography and spectrophotometry, depend on the ultraviolet wavelength, the duration of irradiation, stage of development of the plant, etc.

More study of the complex effects of UV-irradiation on plants is urgently needed. Preliminary studies by the authors showed that in chloroplasts of cabbage, beet, bean, turnip, and pea leaves, pigment content increased during short-term UV-irradiation, and decreased when the

Card 2/3

L 14296-66
ACC NR: AT6003882

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exposure was longer. Studies conducted at high altitude laboratories have established that when natural ultraviolet irradiance is high, absorption by leaves of radiant energy from ultraviolet and infrared rays increases. These data indicate that plants growing in extreme conditions (such as spaceflight) use radiant energy in a wider spectral band for their vital activity. It has been observed that photosynthesis in wild alpine plants proceeds at normal levels or higher. This is one of the reasons to suspect that with sufficiently intense, around-the-clock illumination, plants in spaceflight conditions may not require protection from the entire ultraviolet spectrum.

Further research must be conducted on the use of parts of the ultraviolet spectrum to increase the resistance of plants to other cosmic radiation factors. Orig. art. has: 7 tables. [ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 018 / OTH REF: 004

Card 3/3

L 02253-67

ACC NR: AR6024832 SOURCE CODE: UR/0299/66/000/004/G006/G006

24

B

AUTHOR: Shakhov, A. A.

TITLE: Ecological and physiological rearrangement of plants on the basis of photoenergy

SOURCE: Ref. zh. Biologiya, Part I, Abs. 4G32

REF SOURCE: Tr. Labor. evolyuts. i ekol. fiziol. In-t fiziol. rast. AN SSSR, v. 5, 1965, 5-17

TOPIC TAGS: plant physiology, plant ecology, photobiology

ABSTRACT: The author analyzes his own investigations and those of his colleagues conducted in the far north over the past 10 yrs using a photointegrating sphere method /Translator's note: literal translation of metod fotointegriruyushchey sredy/. Arctic plants utilize radiant energy for vital activity processes more completely and in a wider range; they absorb considerably more radiant energy than they use for photosynthesis. A high degree of energy absorption (up to 95% and more) was noted in the short wave portion of the spectrum, up to 300 to 320 millimicrons, and also of infrared rays (20 to 30%) and yellow-green rays (70 to 80%). Radiant energy absorption of a plant changes in the

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ACC NR: AR6024832

process of plant generations adapting to new temperature and light conditions; the author calls this photo-adaptation. This process is characterized by an increase in size of the chloroplasts and their granules. Respiration intensity increases because of the metal-containing oxidases; and, the role of the flavoprotein oxidases decreases. On the whole the expenditure of organic substance for respiration in plants of northern reproduction is 20% lower compared to plants of southern reproduction. These investigations have made possible the recommendation of measures for the development of plants in the north. Ye. Yurina. /Translation of abstract/.

SUB CODE: 06

Card 2/2 pb

SHAKHOV, A.A., SHISHCHENKO, S.V.; STANKO, S.A.; SHAYDUROV, V.S.;
GOLUBKOVA, B.M.

Ultraviolet irradiation of plants as a problem of space phytophysiology. Probl. kosm. biol. 4:474-486 '65. (MIRA 18:9)

1. SHAKHOV, A.

2. USSR (600)

4. Water-Supply Engineering

7. Study of the work of purifiers with perforated bottoms on the rivers of the Ukrainian S.S.R. Zhil. -kom.khoz. 2 no.9, 1952.

9. **Monthly List of Russian Accessions**, Library of Congress, January 1953. Unclassified.

SHAKHOV, A.I.

SHAKHOV, A.I.; BETIN, P.Ya.; AFANAS'YEVSKIY, Ye.K., redaktor; MINYAYEVA, G.A., redaktor.

[Laying out and marking off ships on the mold loft] Razbivka i razmetka sudov na plaze. [Leningrad] Gos. izd-vo sudostroit. lit-ry, 1953. 123 p. (MLRA 7:6)

(Shipbuilding)

SHAKHOV, A., kandidat tekhnicheskikh nauk.

Using clarifying agents in perforated bottom purifying plants.
Zhil.-kom.khoz.4 no.8:18-20 '54. (MLRA 8:3)
(Water—Purification)

SHAKHOV, A., dotsent, kandidat tekhnicheskikh nauk; SHIRYAYEVA, A., assistent.

Intermittent coagulation in water clarification. Zhil.-kom. khoz. 6 no.8:13-14 '56. (MLRA 10:2)

1. Khar'kovskiy institut inzhenerov kommunal'nogo stroitel'stva. (Water--Purification)

SHAKHOV, Aleksandr Ivanovich; BETIN, Pavel Yakovlevich; DORMIDONTOV, F.K.,
~~otvetstvennyy~~ red.; LEVOCHKINA, L.I., tekhn. red.

[Laying out and marking off ships on the mold loft] Razbivka i
razmetka sudov na plaze. Izd.2., ispr. i dop. Leningrad, Gos.
soiuznoe izd-vo sudostroit. promyshl., 1958. 152 p. (MIRA 11:7)
(Naval architecture)

SHAKHOV, A.I.; SHIRYAYEVA, A.V.

Effect of adding small amounts of hydrophilic colloids to hydrophobic coagulating agents used in purifying water. Nauch. dokl.vys.shkoly; stroi. no.2:281-282 '59.
(MIRA 13:4)

1. Rekomendovana kafedroy santekhniki Khar'kovskogo instituta inzhenerov kommunal'nogo stroitel'stva.
(Water--Purification) (Colloids)

MINIOVICH, David Semenovich [deceased]; RUSINOV, M.M., prof., doktor tekhn. nauk, nauchnyy red.; SHAKHOV, A.I., inzh., nauchnyy red.; KUSKOVA, A.I., red.; KOROVENKO, Yu.N., tekhn.red.

[Using photogrammetry in shipbuilding and ship repairing] Fotogrammetricheskii metod v sudostroenii i sudoremonte. Nauchnye red. M.M.Rusinov i A.I.Shakhov. Leningrad, Gos.soiuznoe izd-vo sudostroit.promyshl., 1960. 135 p. (MIRA 14:3)

(Photogrammetry) (Shipbuilding)
(Ships--Maintenance and repair)

MINIOVICH, David Semenovich [deceased]; RUSINOV, M.M., prof., doktor tekhn.nauk, nauchnyy red.; SHAKHOV, A.I., inzh., nauchnyy red.; KUSKOVA, A.I., red.; KOROVENKO, Yu.N., tekhn.red.

[Photogrammetry in building and in the repair of ships] Fotogrammetricheskii metod v sudostroenii i sudoremonte. Nauchn. red.M.M.Rusinov i A.I.Shakhov. Leningrad, Gos.soiuznoe izd-vo sudostroit.promyshl., 1960. 132 p. (MIRA 14:1)

(Photogrammetry) (Shipbuilding)
(Ships--Maintenance and repair)

POKRYSHCHENKO, Valentin Fedorovich; KRAVCHENKO, Yevgeniy Ivanovich; ORLOV, N.L., plazovyy razmetchik, retsenzent; SHAKHOV, A.I., inzh., retsenzent; **KUZ'MENKO, V.K., nauchnyy red.; SOSIPARTROV, O.A., red.;** FRUMKIN, P.S., tekhn. red.

[Manual of a mold loftsman] Spravochnik rabochego-plazovshchika. Leningrad, Sudpromgiz, 1961. 200 p. (MIRA 15:3)

(Shipbuilding)

SERPOV, Boris Ivanovich; BARASHKOV, Nikolay Aleksandrovich; BYKHANOVA, Etoliya Anatol'yevna; ZEFIROV, Igor' Vasil'yevich; MOSHCHIN, Valentin Alekseyevich; NESTEROV, P.A., inzh., retsenzent; SHAKHOV, A.I., inzh., retsenzent; DOBROLENSKIY, V.P., nauchnyy red.; SMOLEV, B.V., red.; KOROVENKO, Yu.N., tekhn. red.

[Laying of a ship hull from scale drawings]Razmetka pri masschtabnoi razbivke korpusa. [By]B.I.Serpov i dr. Leningrad, Sudpromgiz, 1962. 323 p. (MIRA 15:7)
(Laying off (Shipbuilding)) (Photomechanical processes)

SHAKHOV, A.I., kapitan 3-go ranga; KARLSON, V.A., kapitan 2-go ranga

Methodology of conducting training at command posts.
Mor. sbor. 46 no.10:44-46 O '63.
(MIRA 18:12)

SHAKHOV, A.I., kand.tekhn.nauk; MUZYCHENKO, A.N., kand.tekhn.nauk;
DUSHKIN, S.S.

Thermal operation of apparatus used in magnetic feed water treatment.
Energ. i elektrotekh. prom. no.3:50-52 Jl-S '63. (MIRA 16:10)

1. Khar'kovskiy institut inzhenerov kommunal'nogo stroitel'stva.

SHAKHOV, A.I., kand. tekhn. nauk (Khar'kov); MUZYCHENKO, A.N., kand. tekhn. nauk (Khar'kov); DUSHKIN, S.S., inzh. (Khar'kov)

Magnetic treatment of water. Vod. i san. tekhn. no.11:6-8 N '63. (MIRA 17:1)

SHAKHOV, A.I., kand. tekhn. nauk, dotsent; MUZYCHENKO, A.N., kand. tekhn. nauk; DUSHKIN, S.S., inzh.

Design of apparatus for the magnetic feed water treatment. Izv. vys. ucheb. zav.; energ. 6 no.9:115-118 S '63. (MIRA 16:12)

1. Khar'kovskiy institut inzhenerov kommunal'nogo stroitel'stva.

SHAKHOV, A.I., kand. tekhn. nauk; DUSHKIN, S.S., inzh.

Improvement of the operation of water clarifying stations in power systems of industrial enterprises. Energ. i elektrotekh. prom. no.1:54-56 Ja-Mr '64. (MIRA 17:5)

SHAKHOV, A.I.; BEREZHNOV, I.N.; DUSHKIN, S.S.

Analyzing the operation of units for the magnetic processing of water. Gaz. prom. 9 no.3:34-37 '64. (MIRA 17:9)

(N) L 11140-66 EWT(1)/EWA(j)/EWA(h)-2

ACC NR: AP6000781 SOURCE CODE: UR/0240/65/000/009/0106/0107

44 55 44 55

AUTHOR: Shakhov, A. I. (Candidate of Technical Sciences); Dushkin, S. S.

ORG: Kharkov Institute of Municipal Construction Engineers (Khar'kovskiy institut inzhenerov kommunal'nogo stroitel'stva) 44,55 60

1,44,55

TITLE: Bactericidal effect of an applied magnetic field

SOURCE: Gigiyena i sanitariya, no. 9, 1965, 106-107

TOPIC TAGS: electromagnetic radiation, electromagnetic biologic effect, water purification, bacteria

ABSTRACT: Experiments were conducted at the Kharkov Institute of Municipal Construction Engineers to determine the bactericidal effect of a magnetic field applied to contaminated water samples. Tests were staged on artificially contaminated water samples taken from the Kharkov water supply system and water samples from the Northern Donets-Donbas Canal during spring flooding in 1964. A special 12 circuit electromagnetic apparatus with the magnet coils on the outside was constructed to produce a magnetic field intensity of 40 to 720 a/cm of 0.4 to 1.6 sec duration to treat water at flow rates of 0.5 to 2 m/sec. Electric power expended for treatment of 1 m^3 water was roughly 0.5 to 3.0 w/hr. Degree of purification was determined by the

Card 1/2

UDC: 628.163:628.337

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ratio of bacteria in the water sample before and after treatment. Total number of bacteria was determined by GOST 5216-50. A membrane filter method was used for bacteriological tests on the Kharkov water supply samples, and a two phase fermentation test method was used for the Northern Donets-Donbas samples. Findings show that magnetic field treatment of contaminated water produces a bactericidal effect. The degree of purification appears dependent on magnetic field intensity and water flow rate conditions, but further research is required to determine optimum paramaters. Orig. art. has: 1 table.

SUB CODE: 06/ SUBM DATE: 15Sep64/ ORIG REF: 000/ OTH REF: 000

60

Card 2/2

ZEFIROV, Igor' Vasil'yevich; NIKONOV, Sergey Nikolayevich; PANKRATOV, Vladimir Petrovich; ORLOV, N.L., rabochiy-razmetchik, retsenzent; RIMMER, A.I., inzh, retsenzent; SHAKHOV, A.I., inzh., nauchn. red.; LISOK, E.I., red.

[Laying off in shipbuilding] Sudovaia razmetka. Leningrad, Sudostroenie, 1965. 411 p. (MIRA 18:8)

SHAKHOV, A.M.

Separation of gas from coal core samples in geological prospecting boring. Razved. i okh.nedr. 22 no.11:54-58 N '56. (MIRA 10:1)

1. Vsesoyuznyy ugol'nyy institut.
(Coal--Testing) (Gas, Naural--Analysis)

SHAKHOV, A.M.

[redacted]

TNN-40 automatic transformer for use with the PS-39 alternating-current generator. Zav. lab. 23 no.5:633 '57. (MIRA 10:8)

1. Vsesoyuznyy ugol'nyy institut.
(Electric transformers)

IGNAT'YEV, A.A., SHAFROV, A.P.

International Conference on the Use of Nonmetallic Materials in the Mining Industry. Ugol' 40 no.6:75 Je '65. (MIRA 18:7)

SHAKHOV, A. M.

Peat Industry - accounting

Tabulation of the work of self-fincancing departments and workshops. Torf. prom. 29 No. 9, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952, UNCLASSIFIED

SHAKHOV, A.N., inzh.

Conform the economics of the peat industry to the present-day requirements. Torf.prom. 40 no.5:1-4 '63. (MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy promyshlennosti.

(Peat industry)

SHAKHOV, A.N., inzh.

Methods for calculating indices of the level of production mechanization. Mekh. i avtom. proizv. 19 no.9:25-27 S '65.
(MIRA 18:9)

SHAKHOV, A.P.

Use of steelmaking irons for malleable iron. A. P. Shakhov and S. S. Krasnovskii. *Liteinoe Proizvodstvo* 1955, No. 11, 25-7.—Former practice invariably called for a portion of charcoal Fe in the cupola burden for malleable castings. Lab. and plant experiences have shown that any Fe can be used satisfactorily, provided that a compn. comprizing a S : Mn ratio of 3.2:1 with a max. Mn of 0.6-0.68 and Si or 0.9-1.4% can be maintained. J. D. Gat

MG

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Df

Complex treatment of polymetal sulfide ore of the Takeli (Middle Asia) deposits by means of gaseous chlorine. D. M. Chizhikov and A. S. Shakhov. *Tsvetnuie Metal.* 1934, No. 2, 62-72.—The Takeli sulfide ore contains on the av. As 0.50, Pb 2.70, Zn 2.92, Fe_2O_3 10.70, S 2.60, Cu 0.15, Al_2O_3 14.20, CaO 2.65, MgO 1.27, CO_2 1.63, SiO_2 47.50, H_2O 0.32, Ag 315 g./ton and Au trace. Expts. on chlorination with gaseous Cl were carried out at temps. of 300-700° at 100° intervals. It was found that ore treated thus at 500° and extd. with H_2O and a satd. soln. of NaCl yields 93-5%, 92-3% and 90% of its Zn, Pb and Ag, resp. The As volatilizes and is condensed as $AsCl_3$. A large plant for electrolysis of NaCl is being constructed in the vicinity of the polymetal sulfide deposit to furnish Cl_2 for its treatment. S. L. Madorsky

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

CA

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Some adsorptive properties of hydrated ferric oxide. A. S. Shakhov. *Colloid J.* (U. S. S. R.) 2, 215-21(1936). Variously prepd. hydrated Fe_2O_3 gels show different adsorptive capacities and solubilities toward oxalic acid. The ratios C_1/m_1 and m_2/C_2 (C_1 and C_2 are the total and absorbed amounts of oxalic acid, m_1 and m_2 the residual and dissolved Fe_2O_3) are characteristic consts. for any given gel. The gels were prepd. by simple pptn. from ferric solns. or by oxidative pptn. from ferrous salt solns.

F. H. Rathmann

METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

2

Some problems of the kinetics of reaction in the substitution of copper and iron by metallic zinc in chloride solutions. A. B. Shakhov. *J. Phys. Chem.* (U. S. S. R.) 8, 525-37(1936).—The pptn. of Cu at 25° and 60° and low acidity obeys the unimol. law $K_1 = (2.3v/tF) \ln C_0/C$, where t = time in min., F = surface of Zn in sq. cm., v = vol. in cc., C_0 and C are concns. in g./l. Values of K_1 for various acidities of HCl were 0.23 at 4.5 g./l.; 0.22 at 2.21; 0.20 at 0.505; 0.16 at 0.252; 0.13 at 0.073 at 25° and 0.57 at 4.5; 0.50 at 2.23; 0.31 at 0.74; 0.30 at 0.60; 0.24 at 0.004; at 60°. Addn. of $ZnCl_2$ reduces the rate of reaction. Pptn. of Fe obeys the bimol. law $K_2 = (v/Ft)[C_x/C_0(C_0 - C_x)]$. Values of K_2 are about 0.0001 at 25° and 0.0005 at 60°. With addn. of Cd 5 (g./l.), the K_2 values are 0.00025 at 25°, 0.0025 at 60° and 0.015 at 80°. F. H. Rathmann

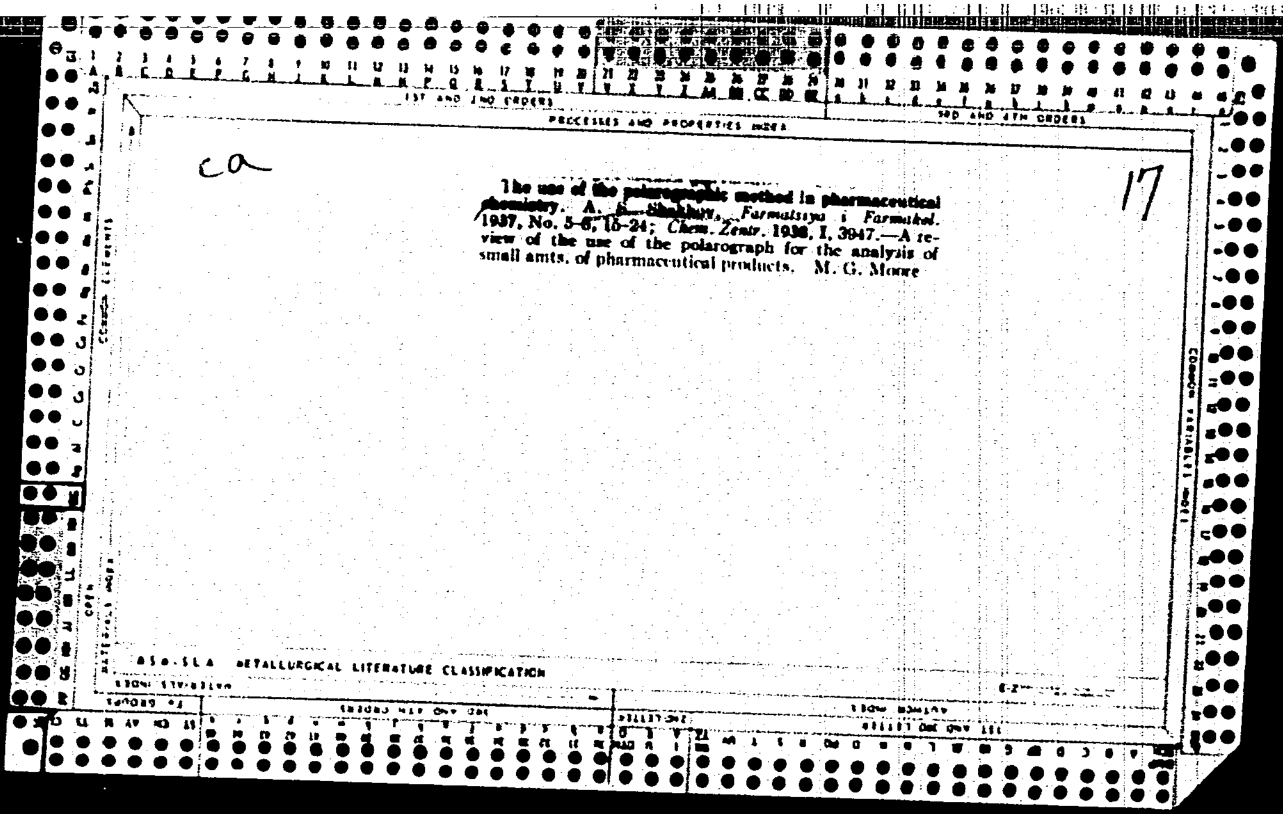
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

2

Solubility of the systems lead chloride calcium chloride, lead chloride zinc chloride and calcium chloride zinc chloride. D. M. Chizhikov and A. S. Shakhov. *J. Applied Chem.* (U. S. S. R.) 9, 1387-93 (In German 1393) (1936). Soly. isotherms for (1) $PbCl_2$ $ZnCl_2$ H_2O, (2) $PbCl_2$ $CaCl_2$ H_2O and (3) $ZnCl_2$ $CaCl_2$ H_2O at 25° and 60° were constructed. In systems (1) and (2) the soly. isotherms pass through a min., showing the formation of undetd. double salts. The min. soly. of $PbCl_2$ at 25° for (1) is 0.08 g. at a $ZnCl_2$ concn. of 20.0 g. and at 60° it is 0.147 g. at a $ZnCl_2$ concn. of 43.71 g./100 g. of soln. The min. soly. of $PbCl_2$ in (2) at 25° is 0.12 g. at a $CaCl_2$ concn. of 4.83 g. and at 60° it is 0.478 g. at a $CaCl_2$ concn. of 4.17 g./100 g. of soln. System (3) has binary points at 25°: $ZnCl_2$ 60.56 and $CaCl_2$ 22.29 g./100 g. of soln. and at 60°: $ZnCl_2$ 50.19 and $CaCl_2$ 28.30 g./100 g. soln. The forms of the isotherms of (3) show the possibility of formation of a complex. Fourteen references.

A. Podgorny

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ca

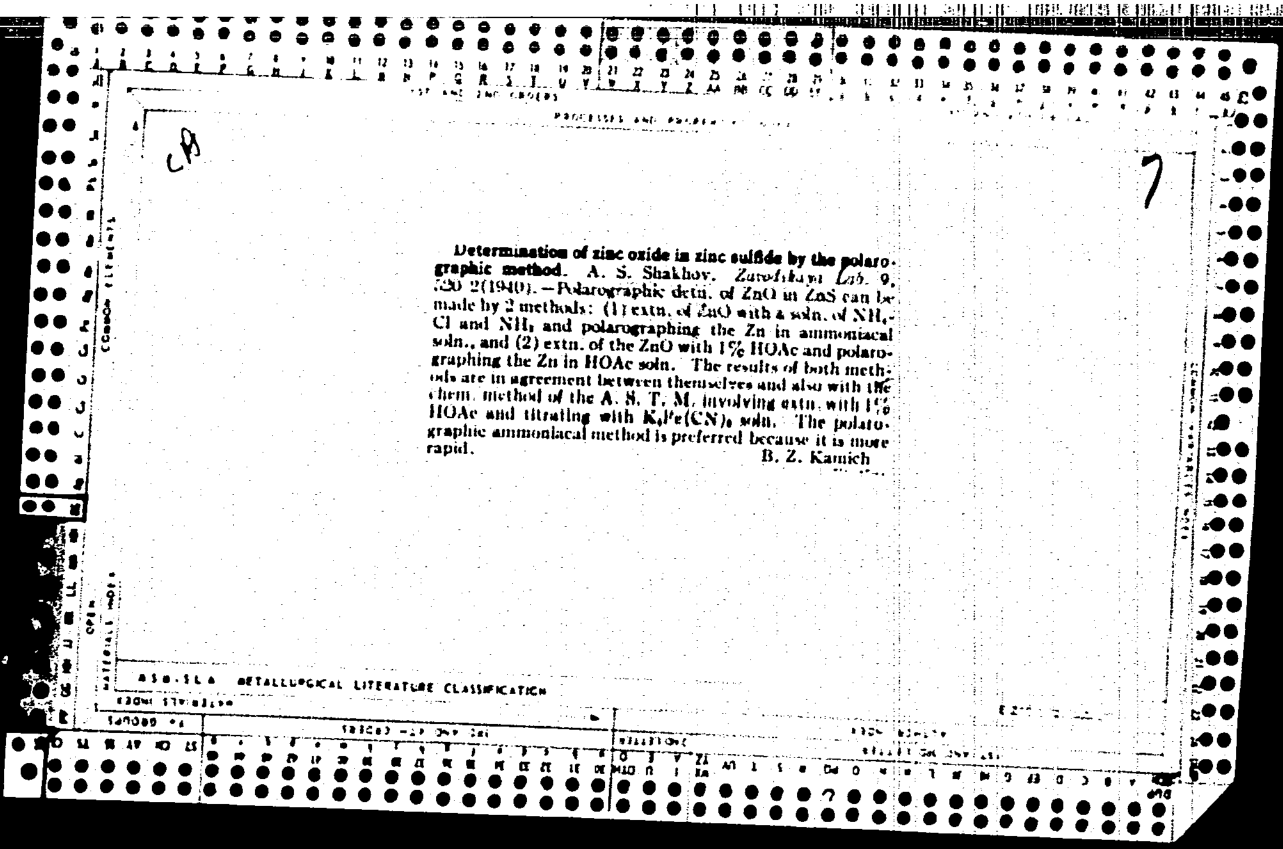
17

The use of the polarographic method in pharmaceutical chemistry. A. S. Shakhov. *Farmatsiya i Farmakol.* 1937, No. 5-6, 15-24; *Chem. Zentr.* 1938, I, 3947.—A review of the use of the polarograph for the analysis of small amts. of pharmaceutical products. M. G. Moore

Met Abs

Analysis 9

***Application of the Polarographic Method to the Determination of Lead and Tin in Potassium Fluo-Oxyniobate and in Metallic Niobium.** A. S. [illegible] *Zhur. Priklad. Khim.* (*J. Applied Chem.*), 1939, 12, (10), 1555-1[illegible]. [In Russian.] Pb can be determined polarographically in citric acid solution after neutralization of the acid with NaOH (phenolphthalein). The addition of phenolphthalein suppresses the maximum on the Pb wave. In acid solution down to 0·00120 grm./100 ml. Pb can be determined. The base electrolyte is KCl. In sodium citrate solution down to 0·00026 grm./100 ml. Pb can be determined. Sn must be determined in sodium citrate solution; this is therefore used where Pb and Sn are present together. Down to 0·0[illegible] 0·00060 grm./100 ml. Sn can be determined accurately. When analysing metallic Nb, the sample is fused with potassium pyrosulphate, and the melt dissolved in a solution of citric acid neutralized with NaOH.—A. B.



PROCESSES AND PROPERTIES INDEX
cA
7

Determination of zinc oxide in zinc sulfide by the polarographic method. A. S. Shakhov. *Zavodskaya Lab.* 9, 520 2(1940).—Polarographic detn. of ZnO in ZnS can be made by 2 methods: (1) extn. of ZnO with a soln. of NH_4Cl and NH_3 and polarographing the Zn in ammoniacal soln., and (2) extn. of the ZnO with 1% HOAc and polarographing the Zn in HOAc soln. The results of both methods are in agreement between themselves and also with the chem. method of the A. S. T. M. involving extn. with 1% HOAc and titrating with $K_4Fe(CN)_6$ soln. The polarographic ammoniacal method is preferred because it is more rapid.

B. Z. Kamich

MA

Analysis 7

***Photocolorimetric Determination of Tungsten.** A. S. Shakhov (*Zavod. Lab.* (*Works' Lab.*), 1941, **10**, 170–173; *C. Abs.*, 1941, **35**, 7870). [In Russian.] In the colorimetric determination of W as thiocyanate complex with a photocolorimeter, the absorption of light follows the Lambert-Beer law only in small concentrations. This indicates that complexes with different absorption coeffs. exist in the solution. The formation of the thiocyanate complex of W is unimolecular. The optimum concentration for the determination of W is 0·3–0·7 mg. WO_3 in 25 ml. solution. Maximum sensitivity of the method is 0·01 mg. in 25 ml. The error is ±3%.

1942

PROCESSES AND PROPERTIES INDEX

CA

7

Photocolorimetric determination of arsenic. V. B. Shaklov. *Zavodskaya Lab.* 11, 240-2(1945).—The colloidal solns. of As obtained by reduction with S_2O_4 are coarsely dispersed and cannot be filtered through paper because they lose their color and leave a dark residue on the filter. Fifty ml. of soln. contg. 0.1 mg. of As was used to test the light filters, and the absorption of light by water with the same filters was measured. A max. difference in the readings of the photocolorimeter between the brown As soln. and water was obtained with light blue filters. The colors of solns. contg. 0.05-0.35 mg. of As in 50 ml. remained stable for over 3 hrs. and the readings were const. within 1 scale division. Only after 24 hrs. in concns. of 0.1 mg. of As the readings became displaced by 3 scale divisions. At 0.3 mg. of As in 50 ml. of soln. the readings were displaced by 10 scale divisions after 20 hrs. At high concns. the measurements must be made within 1 hr. after the start of the reaction. The detn. under optimum conditions of reduction and with an insignificant diln. of the colloidal soln. was accurate to within approx. 3% (relative); only in some cases the difference was 5-7%. The relation between the coeff. of absorption, ε, and the concn. is presented in the form of a graph. It is linear within the interval from 0.05 to 0.6 mg. of As per 50 ml. of soln. Within this interval of concns. the colloidal solns. of As obey the Lambert-Beer law.

W. R. Henn

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

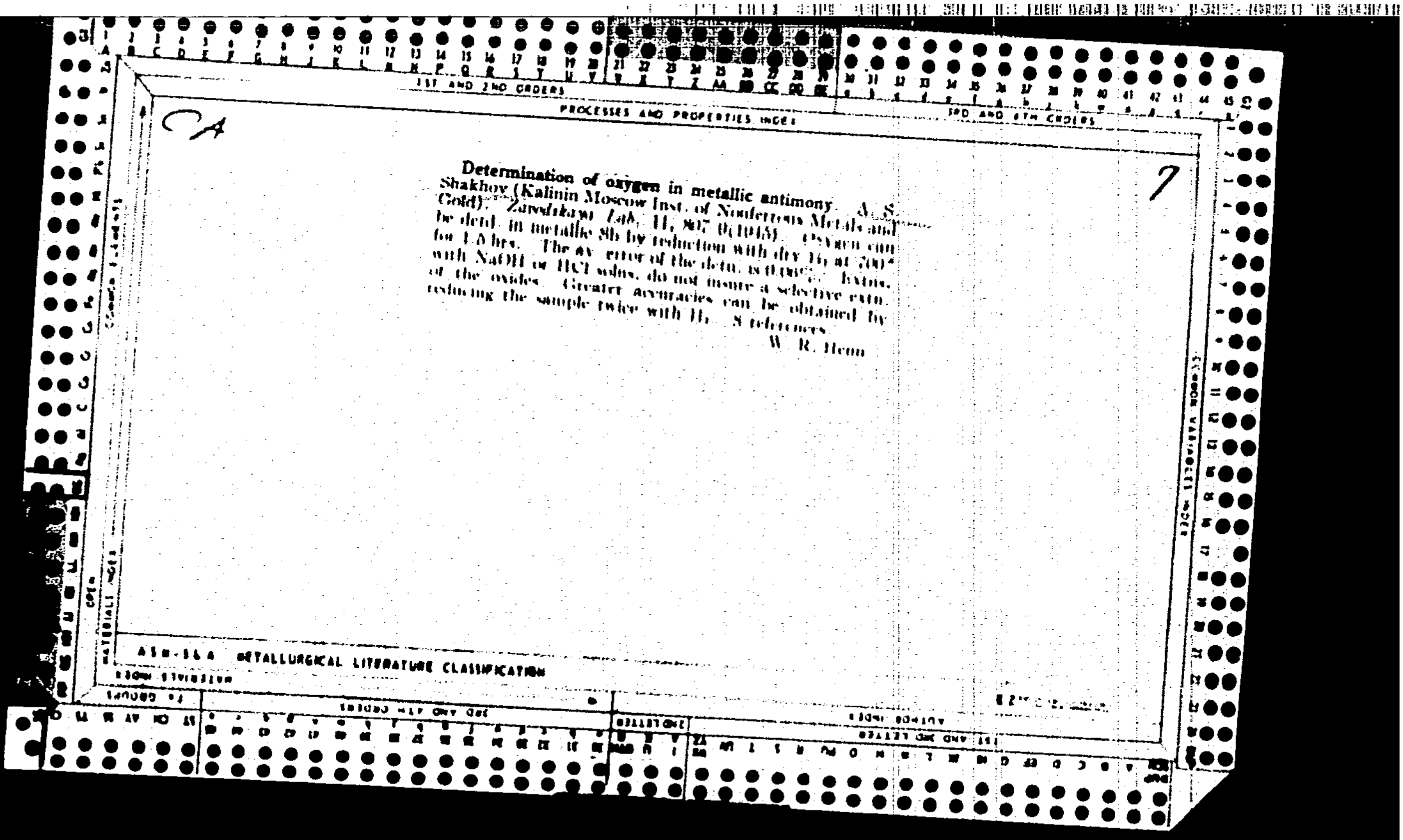
CA

7

Photocolorimetric determination of molybdenum. A. S. Shakhov. (Rabota Provodilas v Nauch.-Issledovatel. Inst. Redkikh i Malykh Metallov (Giredmet). *Zavodskaya Lab.* 11, 301-4(1945).—Mo is detd. photocolorimetrically in the form of its CNS complex. The absorption of light in solns. of Mo-CNS complex obeys the Lambert-Beer law. However, the slopes of the lines representing the relation between the absorption coeff. and the concn. differ at high concns. from those at low concns.; this indicates the existence of 2 different complexes. The kinetics of the reverse reaction, decoloration of the Mo-CNS complex, was studied. It is a monomol. reaction with 2 stages of reaction velocity; this is attributed to the existence of 2 colored complexes. The optimum region of concns. for the detn. of Mo is from 0.3 to 0.7 mg. of Mo in 25 ml. of soln. The max. sensitivity of the method is 0.007 mg. of Mo per 25 ml. The method is accurate to within 3% (relative). To a known quantity of the Mo soln. contg. 0.1 mg. of Mo per ml. add 2 ml. of 25% KCNS, 2 drops of 10% $FeCl_3$, and 2 ml. of 5% soln. of Sn in strong HCl, add distd. water to 25 ml., and compare the colors after 10-15 min. A blue-green light filter with a max. capacity in the 4500-4800-A. region was used. Four references.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

7

Determination of oxygen in metallic antimony. A. S. Shakhov (Kalinin Moscow Inst. of Nonferrous Metals and Gold). *Zavodskaya Lab.* 11, 807-9(1945).—Oxygen can be detd. in metallic Sb by reduction with dry H_2 at 700° for 1.5 hrs. The av. error of the detn. is 0.005%. Extn. with NaOH or HCl solns. do not insure a selective extn. of the oxides. Greater accuracies can be obtained by reducing the sample twice with H_2. 8 references.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

CA

7

Photocolorimetric determination of selenium and te lurium. A. S. Shakhov. *Zavodskaya Lab.* 11, 893 (1945).—To det. Se, add 20 ml. of HCl (1:1) and 1 ml. of 10% $SnCl_2.2H_2O$ soln. to the Se soln. in a 50-ml. beaker, and add water to 50 ml. The reduction takes place in the cold. The orange Se hydrosol obtained is very stable and can be kept for 5 days. Max. sensitivity of the photocolorimeter is obtained with light blue light filters and a min. sensitivity with red light filters. A linear relation was observed between 0.05 and 0.5 mg. of Se in 50 ml. of soln. Within this concn. the Se solns. obeyed the Lambert-Beer law. At concns. above 0.5 mg. no linear relation was observed. The mean exptl. error was approx. 3% (relative). To det. Te, add 20 ml. of HCl (1:1) and 1 ml. of 10% $SnCl_2$ soln. in HCl (d. 1.14) to the Te soln. (contg. 0.1 mg. of Te per ml. of soln.) in a 50-ml. flask and add water to 50 ml. The soln. was stable for 20 days. Max. sensitivity of the photocolorimeter was obtained with light blue light filters. A linear relation between the coeff. of absorption and the concn. was obtained within the interval from 0.025 to 0.5 mg. in 50 ml. of soln. At concns. above 0.5 mg. no such relation was observed. Te can be detd. by means of a curve from 0.025 mg. in 50 ml. of soln. The mean error of detn. was approx. 3% (relative).

W. R. Henn

COMMON ELEMENTS

OPEN

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

8

16(1) 05782

AUTHORS: Savin, G.N., Putyata, T.V., Fradlin, B.N., and Shakhnovskiy, S.M. SOV/41-11-4-8/15

TITLE: Nikolay Aleksandrovich Kil'chevskiy (on the Occasion of his 50th Birthday)

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, 1959, Vol 11, Nr 4, pp 431-433 (USSR)

ABSTRACT: This is an appreciation of the merits of the Professor of the Kiyev University N.A.Kil'chevskiy. He was born in 1909, he finished his studies in 1933, canditate dissertation in 1936, doctorial dissertation in 1940. He was a pupil of Professor I. Ya. Shtayerman, Corresponding Member of the Academy of Sciences Ukr.SSR. Since 1944 he is the director of the Chair of Theoretical Mechanics. His special branch: Theory of elasticity. There follows an index of publications with 45 titles and a photo of N.A.Kil'chevskiy.

Card 1/1

SOV/21-59-11-7/27

AUTHORS: Fradlin, B.N. and Shakhnovs'kyy, S.M.

TITLE: Design of a Plan-Rectangular Depressed Shell

PERIODICAL: Dopovidi Akademiyi nauk Ukrayins'koyi RSR, 1959, Nr 11, pp 1202 - 1205 (USSR)

ABSTRACT: Using the method developed by M.O. Kil'chevs'kyy /-Ref 1_7 the authors formulate a system of integral equations of a gentle shell equibalance

$$w_{(i)\beta}(M,N) = V_{(i)\beta}(M,N) - \int_0^a \int_0^b K'_{(\beta)}(Q,M)\, w_{(i)j}(Q,N)\, dx_q\, dy_q$$

where i, β = 1,2,3; α = 1,2; according to index j = 1,2,3 the summing up is performed; m,n = 1,2,... ∞, and find a solution for that system, also determine the Greene tensor components (10) and (12) for the problem of the equibalance of a depressed shell which is rectangular in the plane. In this work the authors raise no claim to have con-

Card 1/2

SOV/21-59-11-7/27

On the Calculation of a Rectangular Gentle Shell

tributed anything substantially new in subject matter. Instead, they recurrently mention that their calculations yield results coinciding with and confirming those arrived at by V.Z. Vlasov [Ref 2], S.A. Ambartsumyan [Ref 4] and M. Myshonov [Ref 5]. There are 5 Soviet references.

ASSOCIATION: Kyyivs'kyy politekhnichnyy instytut (Kiyev Polytechnical Institute)

PRESENTED: By F.P. Byelyankin, Member, AS UkrSSR

SUBMITTED: April 17, 1959

Card 2/2

SHAKHNOVSKIY, S.M.

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

268. L. N. Stavraki (Kuibishev): Strain design and general stability of structures.
269. L. N. Stavraki (Kuibishev): A general method of solving non-linear problems of structural mechanics.
270. R. D. Stepanov (Moscow): A contribution to the non-linear problem of plate flutter.
271. L. G. Stepanskii, E. P. Unksov (Moscow): On the use of variational principles for the approximate solution of some problems of plastic equilibrium.
272. A. I. Strelbitskaia (Kiev): Experimental investigation of the oblique bending of steel beams beyond the elastic limit.
A. S. Stroganov (Moscow): Strength and visco-plastic flow of soils.
274. G. I. Ter-Stepanian (Erevan): The relation between pore pressure and rate of creep of slopes.
275. L. A. Tolokonnikov (Tula): Finite plastic strains of non-linearly deformed bodies.
276. A. D. Tomlenov (Moscow): Piercing of metals by a spherical punch considering contact friction.
277. Ie. L. Torchinskaia (Moscow): An asymptotic method of designing flexible blades of variable pitch at high speeds of rotation.
278. R. V. Torner (Moscow): Application of similarity methods to the analysis of the flow of rubber compounds.
279. A. A. Trapeznikov, T. G. Shalopalkina (Moscow): Dependence of the maximum elastic and discontinuous strains of aluminum-naphtenate gels on strain rates.
280. S. A. Tumarkin (Moscow): An asymptotic method for the design of toroidal shells.
281. V. K. Turkin (Moscow): Some problems of soil dynamics.
282. N. V. Tiabin (Kazan): The flow in the boundary layer of an elastic, visco-plastic medium.
283. A. G. Ugodchikov (Gorkii): Some problems concerning the analysis of stresses in shrink fits.
284. G. V. Uzhik (Moscow): On strength and rupture criteria for metals in the presence of stress concentrations.
285. I. I. Ulitskii (Kiev): Some problems of non-linear creep.
286. A. A. Umanskii (Moscow): Analogy and model methods in problems of structural mechanics concerning bars and thin-walled structures.
287. M. T. Urazbaev (Tashkent): The problem of seismic strength of fluid supported hydraulic structures.
288. Ia. S. Ufliand (Leningrad): Application of integral transformations to the solution of some problems concerning an elastic wedge.
289. V. S. Fadeeva (Moscow): Deformations of plastic clays in moulding.
290. I. V. Fedorov (Moscow): Elastic-plastic equilibrium of an acute granular wedge.
291. M. L. Feldman (Dnepropetrovsk): Stability and vibrations of orthotropic plates of variable thickness.
292. A. P. Filippov (Kharkov): Extensional vibrations of turbine discs.
293. M. M. Filonenko-Borodich (Moscow): On the possibility of generalizing the Mohr and Huber-Mises-Hencky theories of rupture.
294. M. P. Fleishman (Lvov): Some problems concerning the bending of plates and shells with stiffeners.
295. L. M. Flitman (Moscow): On the impact of a wave on a heavy rigid sphere embedded in an elastic medium.
296. V. A. Florin (Leningrad): Some problems concerning rock formations of hydraulic structures.
297. V. A. Florin (Leningrad): Present state and problems of soil mechanics.
298. V. A. Florin (Leningrad): Flow conditions for saturated sands.
299. N. V. Florina (Leningrad): Experimental study of real and apparent friction in vibrating soils.
300. B. N. Fradlin, S. M. Shakhnovskii (Kiev): On the construction of Green's functions for the equilibrium problem of shallow shells.
301. S. I. Fraifeld (Kharkov): Further development of the initial rheological equation.
302. V. M. Frolov (Moscow): Temperature stresses in cantilever plates and their effect on stiffness.

FRADLIN, B.N. (Kiyev); SHAKHNOVSKIY, S. [Shakhnovs'kyi, S.M.] (Kiyev)

Determining the displacements of a shallow shell subjected to the action of an arbitrary load. Prykl.mekh. 6 no.4:393-402 '60. (MIRA 13:11)

1. Kiyevskiy politekhnicheskiy institut.
(Elastic plates and shells)

S/020/60/131/06/19/071
B014/B007

AUTHORS: Fradlin, B. N., Shakhnovskiy, S. M.

TITLE: The Construction of the Green Tensor for the Problem of the Equilibrium of a Small-angle Shell of Double Curvature

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 131, No. 6, pp. 1298 - 1300

TEXT: With the integral equation (1) the system of functional equations for a small-angle shell is written down according to N. A. Kil'chevskiy; further, the authors give formula (2) for the required displacement. Thus, equation (4) is obtained for the functional equation (1), the solution of which is given as (6). This equation is simplified for the case of a hinged suspension of the shell and solution (9) is obtained. The expressions obtained by V. Z. Vlasov (Ref. 2) and M. Mishonov (Ref. 4) for the deformation of the shell and for the displacement components respectively are found to agree with the corresponding components of the Green tensor determined by (9). This result shows the equivalence of the integral- and differential equation systems of the shell equilibrium. There are 4 Soviet references.

Card 1/2

The Construction of the Green Tensor for the Problem of the Equilibrium of a Small-angle Shell of Double Curvature S/020/60/131/06/19/071 B014/B007

ASSOCIATION: Kiyevskiy politekhnicheskiy institut (Kiyev Polytechnic Institute)

PRESENTED: July 9, 1959, by Yu. N. Rabotnov, Academician

SUBMITTED: June 18, 1959

✓

Card 2/2

FRADLIN, B.N.; SHAKHNOVSKIY, S.M. [Shakhnov'kyi, S.M.]

Determination of Green's tensor for a shallow shell on an elastic base. Dop. AN URSR no.1:23-26 '62. (MIRA 15:2)

1. Kiyevskiy politekhnicheskiy institut. Predstavleno akademikom AN USSR G.N.Savinym [Savin, H.M.].

(Elastic plates and shells)
(Calculus of tensors)

36997
S/044/62/000/003/044/092
C111/C444

24.4200

AUTHORS: Fradlin, B. N., Shakhnovskiy, S. M.

TITLE: Integral equations for the equilibrium of flat shells with rectangular ground plane

PERIODICAL: Referativnyy zhurnal, Matematika, no. 3, 1962, 76, abstract 3B324. ("Izv. Kiyevsk. politekhn. in-ta", 1961, 31, 104-121)

TEXT: The author uses the method of N.A. Kil'chevskiy and the formulas of V. Z. Vlasov and obtains the equation of the problem in the form of a certain integro-functional equation. It is shown that under certain additional suppositions on the distribution of the load of the shells this equation can be reduced to the solution of a system of Fredholm integral equations.

[Abstracter's note: Complete translation.]

Card 1/1

L 53790-65 EWT(d)/EWT(m)/EWP(w)/EWA(d)/EWP(v)/EWP(k)/EWA(h) Pf-4/Pg-4/
Peb IJP(c) WW/EM

ACCESSION NR: AP5014820 UR/0198/65/001/005/0006/0010

AUTHORS: Fradlin, B. N. (Kiev); Shakhnovskiy, S. M. (Kiev)

32
31
B

TITLE: On a thin shell equilibrium

SOURCE: Prikladnaya mekhanika, v. 1, no. 5, 1965, 6-10

TOPIC TAGS: shell theory, integral equation, integro differential equation, functional equation, shell stability

14

ABSTRACT: The stability conditions of a plane thin shell were analyzed mathematically using the functional equations

$$u_{(i)\beta}(M;N) = v_{(i)\beta}(M;N) - \\ -\int_0^a\int_0^b K^j_{(\beta)}(Q;M)\,u_{(i)j}(Q;N)\,dx_Q\,dy_Q + A_{(i)\beta}(M;N)$$

where $u_{i\beta}$ and $v_{i\beta}$ indicate the displacements of the shell and the plate. This integro-differential equation is written as an integral equation in the form

Card 1/3

L 53790-65
ACCESSION NR: AP5014820

$$u_{(i)\beta}(M;N) = v^{*}_{(i)\beta}(M;N) - \int_0^a\int_0^b K^{*}_{(\beta)}(Q;M)\,u_{(i)j}(Q;N)\,dx_Q\,dy_Q,$$

$$v^{*}_{(i)\beta} = v_{(i)\beta} + \Delta v_{(i)\beta},$$

and a special shell structure is selected which is fixed at two sides and hinged at the other two. The function $\Delta v_{i\beta}$ is obtained in the form

$$\Delta v_{(i)\alpha} = f_0^{\alpha};\ \Delta v_{(i)3} = f_0^{3} + x(x-a)f_1^{3},$$

$$f_0^{j} = \frac{x-a}{a}v_{(i)j}(0,y) - \frac{x}{a}v_{(i)j}(a,y);$$

$$f_1^{3} = -\frac{x-a}{a^2}\left(\frac{\partial\psi_0^3}{\partial x}\right)_{x=0} - \frac{x}{a^2}\left(\frac{\partial\psi_0^3}{\partial x}\right)_{x=a};$$

$$\psi_0^3 = v_{(i)3} + f_0^3,$$

and the solution of the integral equation is expressed by

$$u_{(i)\beta}(M;N) = \sum_{m,n}[E^{(i)\beta}_{mn}(N)Z^{\beta}_{mn}(M) + A^{(i)\beta}_{mn}Z^{i}_{mn}(N)z^{\beta}_{mn}(M)].$$

Card 2/3

L 53790-65

ACCESSION NR: AP5014820

The results are extended to the case where the shell is hinged at the edges y = 0, y = b and has an elastic displacement along the edges x = 0 and x = a which is arbitrary in a direction normal to the sides but is zero along the vertical direction. Orig. art. has: 64 equations.

ASSOCIATION: Kiyevskiy politekhnicheskiy institut (Kiev Polytechnic Institute)

SUBMITTED: 13Jan65 ENCL: 00 SUB CODE: AS,ME

NO REF SOV: 004 OTHER: 000

Am

Card 3/3

GORIZONTOV, P.D., GRAFOV, A.A., SHAKHODYROV, V.V.

Role of the adrenopituitary system in the development of certain symptoms of experimental radiation sickness. Vest.AMN SSSR 13 no.9:12-21 '58 (MIRA 11:10)

1. Chlen-korrespondent AMN SSSR (for Gorizontov).
   (ROENTGEN RAYS, effects,
      in adrenalectomized male white rats (Rus))
   (ADRENALECTOMY, effects,
      on post-irradiation reactions in male white rats (Rus))

SHAKHODZHAYEV, L.Sh., inzh.

Increasing the use of underground conveyor lines. Izv. vys. ucheb. zav.; gor. zhur. 7 no.10:119-123 '64.

(MIRA 18:1)

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki. Rekomendovana kafedroy transportnykh mashin i kompleksov.

SHAKHOMYALO, M I

SHAHOMYALO, M.I. [Shahomialo, M.I.], inzh.-mekhanik

Principal features of the operation of D-54 engines on natural gas.
Mekh.sil'. hosp. 9 no.3:30-32 Mr '58. (MIRA 11:4)
(Tractors--Engines) (Gas, Natural)

POKUDIN, A.A., dotsent.; SHAKHOTIN,N.G., assistent.

Infectious vaginitis in sheep. Veterinariia 33 no.10:57-59 O '56.
(MLRA 9:10)

1. Uzbekskiy sel'skokhozyaystvennyy insitutu imeni V.V.Kuybysheva.
(Samarkand Province--Sheep--Diseases) (Vagina--Diseases)

SEVEROV, T.P., podpolkovnik; SHAKHOT'KO, G.Ye., podpolkovnik; LABUTIN, D.M., podpolkovnik; KUZNETSOV, F.S., polkovnik, otv. red.; DENISOV, I.I., inzh.-podpolkovnik, red.; SOKOLOVA, G.F., tekhn. red.

[Artillery firing notebook for an artillery officer] Artilleriisko-strelkovyi bloknot ofitsera artillerii. Moskva, Voenizdat, 1963. 122 p. (MIRA 16:6)
(Gunnery)

KRESTOVNIKOV, Aleksandr Nikolayevich, professor, doktor; SHAKHOV, Aleksey Sergeyevich, dotsent, kandidat khimicheskikh nauk; URAZOV, G.G., akademik, redaktor; CHERNOV, A.N., redaktor; ARKHANGEL'SKAYA, M.S., redaktor; ATTOPOVICH, M.K., tekhnicheskiy redaktor.

[Academician Nikolai Sergeevich Kurnakov; work in the field of nonferrous metallurgy] Akademik Nikolai Semenovich Kurnakov; raboty v oblasti tsvetnoi metallurgii. Sostaviteli: A.N.Krestovnikov, A.S. Shakhov. Pod red. G.G.Urazova, Moskva, Gos. nauchno-tekhn. izd-vo litry po chernoi i tsvetnoi metallurgii, 1954. 406 p. (MLRA 7:12)
(Kurnakov, Nikolai Sergeevich, 1860-1941) (Metallurgical analysis)

SHAKHOV, A.S.

PHASE I BOOK EXPLOITATION SOV/3640

Gerasimov, Yakov Ivanovich, Aleksandr Nikolayevich Krestovnikov, Aleksey Sergeyevich Shakhov

Khimicheskaya termodinamika v tsvetnoy metallurgii. t. 1: Teoreticheskoye vvedeniye. Termodinamicheskiye svoystva vazhneyshikh gazov. Termodinamika tsinka i yego vazhneyshikh soyedineniy; spravochnoye rukovodstvo (Chemical Thermodynamics in Nonferrous Metallurgy. Vol. 1: Theoretical Introduction. Thermodynamic Properties of the More Important Gases. Thermodynamics of Zinc and Its More Important Compounds; Manual) Moscow, Metallurgizdat, 1960. 230 p. Errata slip inserted. 5,100 copies printed.

Compiler: M.S. Vendrikh, Candidate of Technical Sciences; Reviewers: K.V. Astakhov, Doctor of Chemical Sciences, Professor, and N.V. Gudima, Docent; Ed.: O.M. Kamayeva; Tech. Ed.: V.V. Mikhaylova.

PURPOSE: This book is intended for engineers, scientific workers, and students in advanced courses at schools of higher technical education.

Card 1/5

Chemical Thermodynamics (Cont.) SOV/3640

COVERAGE: This book is the first in a series of eight on the thermodynamic properties of nonferrous and rare metals, as well as their principal compounds (oxides, sulfides, chlorides, sulfates, and carbonates). This volume contains basic data on the principles of chemical thermodynamics, methods of calculating thermodynamic magnitudes, reference data on the thermodynamic properties of the more important gaseous participants in pyrometallurgical reactions, and data on the thermodynamic properties of zinc and its principal compounds. A basic bibliography of 75 publications on chemical thermodynamics and its application to metallurgical processes and metallography is included. No personalities are mentioned. There are 423 references: 51 Soviet, 171 English, 140 German, 30 French, 12 Japanese, 9 Italian, 4 Dutch, 2 Belgian, 1 Swiss, 1 Finnish, 1 Romanian, and 1 Norwegian.

TABLE OF CONTENTS:

Preface 3

Accepted Symbols of the More Important Values 5

Card 2/5

Ch. I. Laws of Thermodynamics and Basic Equations 9

1. Scope and limits of thermodynamics 9
2. First law of thermodynamics 12
3. Thermochemistry I. Hess Law 14
4. Thermochemistry II. Heat Capacities 17
5. Thermochemistry III. Kirchhoff Equation 20
6. Second law of thermodynamics 22
7. Third law of thermodynamics 27
8. Characteristic functions 27
9. Calculation of entropy 30
10. Calorimetry 35
11. Clapeyron-Clausius equation 40
12. Experimental methods of measuring the pressure of saturated steam 43
13. Conditions of equilibrium 46
14. Gibbs-Helmholtz equation (maximum-energy equation) 47
15. Chemical potentials 51
16. Chemical potentials in solutions. Activity 53

Ch. II Chemical Thermodynamics (Science of Chemical Equilibrium) 60

Chemical Thermodynamics (Cont.) SOV/3640

17. Law of mass action 60
18. Isobaric potential of a chemical reaction 63
19. Isobaric potentials and equilibrium constants of heterogeneous gaseous reactions 69
20. Temperature dependence of the isobaric potential and equilibrium constant of a reaction 72
21. Calculation of chemical equilibrium with the functions Φ' and Φ'' 81
22. Approximate methods of calculation 83
23. Application of the third law of thermodynamics for calculating chemical equilibria 84
24. Statistical method of determining thermodynamic quantities from spectroscopic data 86
25. The phase rule 89

Ch. III. Thermodynamic Properties of the More Important Gases 94
26. Tables of properties 94
27. Empirical formulas for the temperatures and isobaric potentials of the more important gaseous reactions 119

Ch. IV. Thermodynamic Properties of Zinc and Its Principal Compounds 127
  28. Zinc 127
  29. Zinc oxide 150
  30. Zinc sulfide 160
  31. Zinc chloride 170
  32. Zincous chloride 179
  33. Zinc sulfate 179
  34. Zinc carbonate 187

Ch. V. Thermodynamics of Zinc. Reactions of Direct Reduction, Oxidation, and Chlorination 192
  35. Reactions with ZnO 192
  36. Reactions with ZnS, $ZnCl_2$, and $ZnSO_4$ 205

Bibliography 215

Basic Bibliography in the Fields of Chemical Thermodynamics and Its Applications in Metallurgical Processes and Metallography 225

AVAILABLE: Library of Congress

VK/jb
5-24-60

Card 5/5

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SO: LC, Soviet Geography, Part I, 1951, Uncl.

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Detgiz, 1951. (MIRA 8:1)
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Struggle against revisionism in problems of credit and banking
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(Poland--Banks and banking) (Germany, East--Banks and banking)

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Criticism of the present-day revisionist concept of the economic role of the state in the transition process from capitalism to socialism. Nauch.trudy MTILP no.18:3-25 '60. (MIRA 15:2)

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Weaving Machine of the SVATY System. CSR. LEKA PROMISHLENOST (Light Industry) 4:49:April 55

L 11454-67 EWT(d)/EEC(k)-2
ACC NR: AP6026456 SOURCE CODE: UR/0410/66/000/002/0053/0060

12

AUTHOR: Shakhov, E. K. (Leningrad)

ORG: none

TITLE: Method of digital measurement of low frequencies [Paper presented at the Seventh All Union Conference of Automatic Control and Electrical Measurement Techniques in Novosibirsk in September 1965]

SOURCE: Avtometriya, no. 2, 1966, 53-60

TOPIC TAGS: frequency measurement, electric measurement, measuring apparatus

ABSTRACT: An analysis is given of a method of digital measurement of low frequencies based on the measurement of the period with subsequent conversion of the number proportional to the period to frequency. The corrected relative error of measurement of the period (first stage of frequency measurement) is 0.01%. The circuit which realize the method is considerably simpler than circuits to realize other methods (with equal speed of action and width of measurable frequency band). The primary advantage of the method is its relatively high speed of measurement of extremely low frequencies with great accuracy. Orig. art. has: 3 figures and 9 formulas.

SUB CODE: 09,14/ SUBM DATE: 18Sep65/ ORIG REF: 005/ OTH REF: 001

Card 1/1 jb UDC: 621.317.76

SHAKHOV, F. N.; SALAMATOV, I. I.; YERMAKOV, I. S.; and SHULIKOV, Ya. V.

"Principles and Methods of Normalization and Unification in Chemical Machine Building," Standart., No 3, pp 9-22, 1954

Translation M-313, 30 Mar 55

AUTHORS: Shakhov, F.N. and Shuer, A.M. 68-5-7/14

TITLE: Standardisation of column apparatus for coke oven works. (Tipizatsiya kolonnykh apparatov koksokhimicheskikh zavodov).

PERIODICAL: "Koks i Khimiya" (Coke and Chemistry), 1957, No.5, pp.32-39 (U.S.S.R.).

ABSTRACT: The authors point out that some distillation equipment used at present on coke ovens should be redesigned in the light of modern knowledge of the hydrodynamics of a bubble cup plate. As an example lime-ammonia and benzole distillation columns are quoted. A review of various types of cup bubble plates, types of overflow, their performance, types of columns and methods of their assembly and criteria for the choice of diameter of steel and cast iron columns are given. Standardisation of distillation plates on coke oven works and particularly on new works is recommended. This will lead to standardisation of the distillation columns which will simplify training of personnel with a general improvement in operation. There are 13 figures and 3 references including 2 Slavic.

ASSOCIATION: Kharkov's branch of NIIKhIMMASh. (Khar'kovskiy Filial NIIKhIMMASh).

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[Welded condensers tanks and pressure vessels; a catalog] Emkostnaia svarnaia apparatura; katalog. Moskva, Informatsionno-izdatel'skii otdel, 1958. 84 p. (MIRA 12:10)

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SHAKHOV, F.N.; MATYASH, A.Ya.

Enameling of equipment for the chemical industry. Zhur. VKHO 8 no.3:334-336 '63. (MIRA 16:8)

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CA

5

THE TUNGSTEN AND BERYLLIUM DEPOSITS OF THE ALTAI. **F. Shakhov.** Problems of Soviet Geol., Moscow 9, 1-20 (1934); [illegible] Jahrb. Mineral. Geol., Referate II, 1935, 141. Granite intrusions are accompanied by W-bearing quartz veins at Kolywansk, Krassnoarmeisk and Tagirek, while granite-pegmatites at Beloretzk contain beryl. Some wolframite is present in aplitic granite or microaplite.

J.F. Schairer

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SHAKHOV, F.N.

Nonferrous and Rare Metal Ores in Krasnoyardk Kray, (bk) by Prof. F.N. Shakhov, Reviewed by Pervushin, S. Tsvet. Met. 10-[illegible]

Report U-1506, 4 Oct 1951

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

SHAKHOV F.N.

Tomsk Polytech. Inst. im Kirov

1009. GEOCHEMISTRY OF THE COALS OF THE KUZNETSK BASIN. Shakhov, F.N. and Efenui, M.B. (Compt.rend.(Doklady) acad. sci. U.R.S.S., 1946, 51, 139-40) The nickel content of a number of coal samples from the Kuznetsk basin has been determined spectrographically and by dimethylglyoxime. Results are tabulated. The condentration of nickel in the ash is not connected with ash content by the simple relation for minor elements formulated by Goldschmidt. As to the probability of having to do in this case with new sources of nickel, it is of interest to note that the coal series belong to the very bottom of the productive formation, approaching closely the country-rock outcrops of the Palaeozoic of the Kuznetsk Alatau which according to Yavorsky's geological map, comprises ancient diorites, norites and gabbro. The possible occurence of nickel in these basic rocks may be a certain extent be supported by data as to the content of this element in the basic rocks of the Kuznetsk Alatau, as well as by the recent findings of nickel bearing hyperbasites within the region may be accounted for by more recent effusion of basalts of the Saltymakovsky range, situated south of

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

15-57-4-4431

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 4, pp 55-56 (USSR)

AUTHOR: Shakhov, F. N.

TITLE: The Origin of Granitic Magma (K voprosu o proiskhozhdenii granitnykh magm)

PERIODICAL: Mineralog. sb. L'vovsk. geol. o-va pri un-te, 1956, Nr 10, pp 39-49.

ABSTRACT: The author believes that there is no problem concerning the origin of granites but that there is a problem concerning the generation of granitic magma. In the author's opinion, granitic magmas most frequently do not "intrude," but form in the sial from rocks during metamorphism. He thinks the idea of mobility of granitic magma has been greatly exaggerated. The magma develops in an environment of folding and frequently in the end stages of the growth of geosynclines. It is generated in the zone of intense compressional forces almost simultaneously with, or even earlier than,

Card 1/4

15-57-4-4431

The Origin of Granitic Magma (Cont.)

hornfels. The generation of magma is related in time to increased recrystallization of the rocks in an environment of highly active volatiles. The volatile constituents may represent the only factor which will keep the magma in a fluid state. In proportion to the increase in recrystallization, the development of fluid magma is accelerated. Inasmuch as the process of recrystallization occurs in an environment of higher temperature, the liquid phase increases, accumulates, and, in favorable conditions, must naturally approach the eutectic composition. Part of the material may be carried away by the volatiles. The most readily found, and most probable, source of heat to produce an environment favorable for generation of magma is found in the movements that give rise to compression. A transition into granitic rock should occur and a loss of volatiles from the magma should be hastened. This transition apparently occurs much more quickly than has been calculated. It is more natural to expect to find a supercooled state in those parts of the magma adjacent to the roof rocks, where large quantities of volatiles generally accumulate. Their escape from the magma promotes very rapid crystallization at considerable depth. Consolidation of the melt may proceed

Card 2/4

15-57-4-4431

The Origin of Granitic Magma (Cont.)

in stages, in zones that are roughly parallel to the boundary of the upper part of the mass or of the roof. This process produces a rough banding in the rock and each band is accompanied by movement of volatiles. Each band forms its own series of ore deposits. Pegmatites, forming as schlieren, are considered by the author to be segments of the magma where, for various reasons, the volatiles were retained till the end of crystallization of the melt. The composition of the pegmatites is controlled not by crystallization differentiation, but by differentiation in the still fluid phase when the volatile constituents aid in driving out all material from the pegmatite melt that gives it a composition different from graphic or normal granites. Metamorphism leading to the formation of magma develops differently in different epochs, inasmuch as the earth's crust contains inhomogeneities in structure and thickness. The systematic development of the process of generation and evolution of granitic magma is indicated in the following outline: regional metamorphism (shearing, recrystallization, and metasomatism) followed by contact metamorphism (recrystallization and hornfels development), and, in order, by zones of hybrid magma, granite magma, rhythmic

Card 3/4

15-57-4-4431

The Origin of Granitic Magma (Cont.)

escape of volatiles, and consolidation of the pluton.
Card 4/4

S. P. B.